DEPARTMENT OF COMMERCE

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

NATIONAL MARINE FISHERIES SERVICE

Incidental Harassment Authorization

The Commander, U.S. Pacific Fleet, 250 Makalapa Dr.,Pearl Harbor, HI 96860-3131, and his designees, is hereby authorized under section 101(a)(5)(D) of the Marine Mammal Protection Act (16 U.S.C. 1371(a)(5)(D)) to harass marine mammals incidental to the Rim of the Pacific (RIMPAC) Anti-submarine warfare (ASW) exercises conducted in the Hawaiian Islands Operation Area (OpArea), June 26 – August 15, 2006:

1 This Authorization is valid from June 26, 2006, through August 15, 2006.

2. This Authorization is valid only for the operation of mid-frequency tactical sonar during designated RIMPAC ASW exercises within the Hawaiian Islands OpArea.

3. (a) The incidental take of marine mammals under the activity identified in Condition 2, by Level B harassment only, is limited to the following species:

(i) Mysticete Whales - fin whale (*Balaenoptera physalus*), Bryde's whale (*Balaenoptera edeni*), sei whale (*Balaenoptera borealis*)

(ii) Odontocete Whales - sperm whale (*Physeter macrocephalus*), dwarf and pygmy sperm whales (*Kogia simus* and *K. breviceps*), short-finned pilot whale (*Globicephala macrorhynchus*), Risso's dolphin (*Grampus griseus*), rough-toothed dolphin (*Steno bredanensis*), Fraser's dolphin (*Lagenodelphis hosei*), bottlenose dolphin (*Tursiops truncatus*), spinner dolphin (*Stenella longirostris*), pantropical spotted dolphin (*S. attenuata*), striped dophin (*S. coeruleoalba*), melon-headed whale (*Peponocephala spp.*), Blaineville's beaked whale (*Mesoplodon densirostris*), Cuvier's beaked whale (*Ziphius cavirostris*), Longman's beaked whale (*Indopacetus pacificus*), killer whale (*Orcinus orca*), false killer whale (*Pseudorca crassidens*), and pygmy killer whale (*Feresa attenuata*).

The taking by Level A harassment, serious injury or death of any of these species, or the taking of any species of marine mammal not listed in 3(a), is prohibited and may result in the modification, suspension or revocation of this Authorization.

(b) The taking of any marine mammal in a manner prohibited under this Authorization must be reported immediately to the Pacific Islands Regional Office, National Marine Fisheries Service (NMFS), at (808) 944-2200, and the Division of Permits, Conservation, and Education, Office of Protected Resources (NMFS), at (301) 713-2289.

4. The holder of this Authorization is required to cooperate with NMFS and any other Federal, state or local agency monitoring the impacts of the activity on marine mammals.

5. Mitigation and Monitoring

The holder of this Authorization is required to implement the following measures:

(a) All RIMPAC participants will receive the following marine mammal training/briefing during the port phase of RIMPAC:

(i) Exercise participants (CO/XO/Ops) will review the C3F Marine Mammal Brief, available OPNAV N45 video presentations, and a NOAA brief presented by C3F on marine mammal issues in the Hawaiian Islands.

(ii) Navy will train observers on marine mammal identification observation techniques.

(iii) Third Fleet will brief all participants on marine mammal mitigation requirements.

(iv) Participants will receive video training on marine mammal awareness.

(b) Navy watchstanders, the individuals responsible for detecting marine mammals in the Navy's standard operating procedures, will participate in marine mammal observer training by a NMFS-approved instructor. Training will focus on identification cues and behaviors that will assist in the detection of marine mammals and the recognition of behaviors potentially indicative of injury or stranding. Training will also include information aiding in the avoidance of marine mammals and the safe navigation of the vessel, as well as species identification review (with a focus on beaked whales and other species most susceptible to stranding). At least one individual who has received this training will be present, and on watch, at all times during operation of tactical mid-frequency sonar, on each vessel operating mid-frequency sonar.

(c) All ships and surfaced submarines participating in the RIMPAC ASW exercises will have personnel on lookout with binoculars at all times when the vessel is moving through the water (or operating sonar). These personnel will report the sighting of any marine species, disturbance to the water's surface, or object to the Officer in Command.

(d) All aircraft participating in RIMPAC ASW events will conduct and maintain, whenever possible, surveillance for marine species prior to and during the event. Marine mammal sightings will be immediately reported to ships in the vicinity of the event as appropriate.

(e) Submarine sonar operators will review detection indicators of close-aboard marine mammals prior to the commencement of ASW operations involving active mid-frequency sonar. Marine mammals detected by passive acoustic

(f) Safety Zones - When marine mammals are detected by any means (aircraft, lookout, or acoustically) within 1000 m of the sonar dome (the bow), the ship or submarine will limit active transmission levels to at least 6 dB below normal operating levels. Ships and submarines will continue to limit maximum ping levels by this 6-dB factor until the animal has been seen to leave the area, has not been seen for 30 minutes, or the vessel has transited more than 2000 m beyond the location of the sighting.

Should a marine mammal be detected within or closing to inside 500 m of the sonar dome, active sonar transmissions will be limited to at least 10 dB below the equipment's normal operating level. Ships and submarines will continue to limit maximum ping levels by this 10-dB factor until the animal has been seen to leave the area, has not been seen for 30 minutes, or the vessel has transited more than 1500 m beyond the location of the sighting.

Should the marine mammal be detected within or closing to inside 200 m of the sonar dome, active sonar transmissions will cease. Sonar will not resume until the animal has been seen to leave the area, has not been seen for 30 minutes, or the vessel has transited more than 1200 m beyond the location of the sighting.

If the Navy is operating sonar above 235 dB and any of the conditions necessitating a powerdown arise ((f), (g), or (h)), the Navy shall follow the requirements as though they were operating at 235 dB - the normal operating level (i.e., the first powerdown will be to 229 dB, regardless of at what level above 235 sonar was being operated).

(g) In strong surface ducting conditions defined below), the Navy will enlarge the safety zones such that a 6-dB power down will occur if a marine mammal enters the zone within a 2000 m radius around the source, a 10-dB powerdown will occur if an animal enters the 1000 m zone, and shut down will occur when an animal closes within 500 m of the sound source.

A strong surface duct (half-channel at the surface) is defined as having the all the following factors: (1) A delta SVP between 0.6 to 2.0 m/s occurring within 20 fathoms of the surface with a positive gradient (upward refracting); (2) Sea conditions no greater than Sea State 3 (Beaufort Number 4); and (3) Daytime conditions with no more than 50% overcast (otherwise leading to diurnal warming). This applies only to surface ship mid-frequency active mainframe sonar.

(h) In low visibility conditions (i.e., whenever the entire safety zone cannot be effectively monitored due to nighttime, high sea state, or other factors), the Navy will use additional detection measures, such as infrared (IR) or enhanced passive acoustic detection. If detection of marine mammals is not possible out to the prescribed safety zone, the Navy will power down sonar (per the safety zone criteria above) as if marine mammals are present immediately beyond the extent of detection. (For example, if detection of marine mammals is only possible out to 700 m, the Navy must implement a 6 dB powerdown, as though an animal is present at 701 m, which is inside the 1000 m safety zone)

(i) Helicopters shall observe/survey the vicinity of an ASW exercise for 10 minutes before deploying active (dipping) sonar in the water. Helicopters shall not dip their sonar within 200 yards of a marine mammal and shall cease pinging if a marine mammal closes within 200 yards after pinging has begun.

(j) The Navy will operate sonar at the lowest practicable level, not to exceed 235 dB, except for occasional short periods of time to meet tactical training objectives.

(k) With the exception of three specific choke-point exercises (special measures outlined in item (m)), the Navy will not conduct sonar activities in constricted channels or canyon-like areas.

(l) With the exception of three specific "choke-point" exercises (special measures outlined in item (m)), and events occurring on range areas managed by PMRF, the Navy will not operate mid-frequency sonar within 25 km of the 200 m isobath.

(m) The Navy will conduct no more than three "choke-point" exercises. These exercises will occur in the Kaulakahi Channel (between Kauai and Niihau) and the Alenuihaha Channel (between Maui and Hawaii). These exercises fall outside of the requirements listed above in (k) and (l), i.e., to avoid canyon-like areas and to operate sonar farther than 25 km from the 200 m isobath. The additional measures required for these three choke-point exercises are as follows:

(i) The Navy will provide NMFS (Stranding Coordinator and Protected Resources, Headquarters) and the Hawaii marine patrol with information regarding the time and place for the choke-point exercises 24 hours in advance of the exercises.

(ii) The Navy will have at least one dedicated Navy marine mammal observer who has received the NMFS-approved training mentioned above in (b), on board each ship and conducting observations during the operation of mid-frequency tactical sonar during the choke-point exercises. The Navy has also authorized the presence of two experienced marine mammal observers (non-Navy personnel) to embark on Navy ships for observation during the exercise.

(iii) Prior to start up or restart of sonar, the Navy will ensure that a 2000 m radius around the sound source is clear of marine mammals.

(iv) The Navy will coordinate a focused monitoring effort around the choke-point exercises, to include pre-exercise monitoring (2 hours), during-exercise monitoring, and post-exercise monitoring (1-2 days). This monitoring effort will include at least one dedicated aircraft or one dedicated vessel for realtime monitoring from the pre- through post-monitoring time period, except at night. The vessel or airplane may be operated by either dedicated Navy personnel, or non-Navy scientists contracted by the Navy, who will be in regular communication with a Tactical Officer with the authority to shut-down, power-down, or delay

the start-up of sonar operations. These monitors will communicate with this Officer to ensure the 2000 m safety zone is clear prior to sonar start-up, to recommend power-down and shut-down during the exercise, and to extensively search for potentially injured or stranding animals in the area and down-current of the area post-exercise.

(v) The Navy will further contract an experienced cetacean researcher to conduct systematic aerial reconnaissance surveys and observations before, during, and after the choke-point exercises with the intent of closely examining local populations of marine mammals during the RIMPAC exercise.

(vi) Along the Kaulakahi Channel (between Kauai and Niihau), shoreline reconnaissance and nearshore observations will be undertaken by a team of observers located at Kekaha (the approximate mid point of the Channel). Additional observations will be made on a daily basis by range vessels while enroute from Port Allen to the range at PMRF (a distance of approximately 16 nmi) and upon their return at the end of each day's activities. Finally, surveillance of the beach shoreline and nearshore waters bounding PMRF will occur randomly around the clock a minimum four times in each 24 hour period.

(vii) In the Alenuihaha Channel (between Maui and Hawaii), the Navy will conduct shoreline reconnaissance and nearshore observations by a team of observers rotating between Mahukona and Lapakahi before, during, and after the exercise.

(n) The Navy will conduct five exercises in the Pacific Missile Range Facilities that fall within 25 km of the 200 m isobath. The live sonar component of these 5 exercises will total approximately 6.5 hours. During these exercises, the Navy will conduct the monitoring described in (m)(i), (ii), and (iii).

(o) The Navy will continue to coordinate with NMFS on the "Communications and Response Protocol for Stranded Marine Mammal Events During Navy Operations in the Pacific Islands Region" that is currently under preparation by NMFS PIRO to facilitate communication during RIMPAC. The Navy will coordinate with the NMFS Stranding Coordinator for any unusual marine mammal behavior, including stranding, beached live or dead cetacean(s), floating marine mammals, or out-of-habitat/milling live cetaceans that may occur at any time during or shortly after RIMPAC activities. After RIMPAC, NMFS and the Navy (CPF) will prepare a coordinated report on the practicality and effectiveness of the protocol that will be provided to Navy/NMFS leadership.

6. Reporting

The holder of this authorization is required to:

(a) Submit a report to the Division of Permits, Conservation, and Education, Office of Protected Resources, NMFS, and the Pacific Islands Regional Office, NMFS, within 90 days of the completion of RIMPAC. This report must contain and summarize the following information:

(i) An estimate of the number of marine mammals affected by the RIMPAC ASW exercises and a discussion of the nature of the effects, if observed, based on both modeled results of real-time exercises and sightings of marine mammals.

(ii) An assessment of the effectiveness of the mitigation and monitoring measures with recommendations of how to improve them.

(iii) Results of all of the marine species monitoring (real-time Navy monitoring from all platforms, independent aerial monitoring, shore-based monitoring at chokepoints, etc.) before, during, and after the RIMPAC exercises.

(iv) As much information (unclassified and, to appropriately cleared recipients, classified "secret") as the Navy can provide including, but not limited to, where and when sonar was used (including sources not considered in take estimates, such as submarine and aircraft sonars) in relation to any measured received levels (such as at sonobuoys or on PMRF range), source levels, numbers of sources, and frequencies, so it can be coordinated with observed cetacean behaviors.

7. In the event that a stranding occurs during the RIMPAC ASW exercises, NMFS will implement the attached shutdown protocols.

8. A copy of this Authorization must be in the possession of all contractors and marine mammal monitors operating under the authority of this Incidental Harassment Authorization.

JUN 27 2006

James H. Lecky
Director
Office of Protected Resources
National Marine Fisheries Service

Date

Attachment

Pursuant to §101(a)(5)(D)(iv) of the MMPA, The Secretary shall modify, suspend, or revoke an authorization if the Secretary finds that the provisions of clauses (i) or (ii) of §101(a)(5)(D) are not being met. Marine mammal strandings are a common event in Hawaii and over the course of the 22 days of ASW exercises, NMFS expects that 1 or 2 single-animal strandings may occur that are not related to RIMPAC. To distinguish these strandings from a stranding that NMFS believes may occur as a result of exposure to the hull-mounted Mid-Frequency Active Sonar (MFAS) activities covered in this authorization, NMFS and the U.S. Navy have established this "shutdown criteria" to provide the necessary time for the Secretary to investigate the cause of uncommon marine mammal stranding events and determine whether the IHA should be modified, suspended, or revoked. The established protocols in place between NMFS Stranding Coordinator Pacific and COMPACFLT Environmental Coordinator are the basis for this document.

Definitions:

Shutdown area – An area within 50 km of the half of the island centered on the place where the animal was found.

Limited Chokepoint Shutdown – Temporary suspension of the hull-mounted MFAS during the choke point exercises.

Uncommon Stranding Event – An event involving any one of the following:

- Two or more individuals of a commonly stranded species found dead or live beached within a two day period (not including mother/calf pairs), or
- A single uncommonly stranded whale found dead or live beached, or
- A group of 10 or more animals milling out of habitat (e.g. such as occurred with melon headed whales in Hanalei Bay in 2004)

Commonly Stranded Odontocete Species - spinner dolphin, striped dolphin, *Kogia* sp, *Tursiops* sp, melon-headed whale, pilot whale, and sperm whales.

Investigation – consists of the following components and can be conducted within 3 days of notification of a stranding event

- NMFS will undertake a survey around stranding site to search for other stranded/out of habitat animals
- Physical Exam of animal (and blood work if live animals) to investigate and verify presence or absences
    - of impacts on the hearing of live stranded mammals. If feasible and if medical condition of the animal allows, Acoustic Brainstem Response (ABR) and Auditory Evoke Potential (AEP) will be conducted to rapidly assess whether the hearing of a live stranded animal has been affected.
    - of long term illness (based on body condition), life threatening infection, blunt force traumas or fishery interaction that would indicate the likely cause of death
    - of gross lesions or CT/MRI findings that have been documented in previous sonar related strandings (i.e., gas emboli or fat emboli, hemorrhages in organs,

hemorrhage in ears). Note: Care must be taken to control and document the conditions under which the carcass is handled. The investigation of microscopic histology can be compromised by the decomposition, freeze/thaw, transport conditions and subsequent necropsy of the mammal.

- Evaluation of environmental conditions (through remote sensing, modeling and direct observations) preceding and during the stranding or out of habitat event to determine if environmental factors that are known to contribute to such events were in place, such as fronts, swells, particular currents, Kona winds, prey abundance, seismic events, lunar phase, toxins or predators in area. Navy will assist in providing environmental data that is otherwise collected for tactical purposes.
    - Strong evidence of environmental factors that might contribute to stranding event were present
    - Weak to no evidence of environmental factors that might contribute to stranding were present
- Within 72 hours of notification of an Uncommon Stranding Event, Navy will provide information regarding where and what (or where not) the Navy was operating sonar leading up to the stranding.

Shutdown Protocol:

1. NMFS will respond to all reports of marine mammal strandings during the exercise. If a stranding is suspected to be an Uncommon Stranding Event, the NMFS Stranding Coordinator Pacific will immediately notify the COMPACFLT Environmental Coordinator. The Coordinators will utilize existing protocols as amplified by this document to verify whether or not an event constitutes an Uncommon Stranding Event.

2. If an Uncommon Stranding Event is verified, NMFS will inform the Navy and will identify the shutdown area. NMFS will also confirm with Navy the start time and duration of any recent choke-point exercises.

3. The Navy will cease hull-mounted MFAS activities in the shutdown area. Additionally, if the uncommon stranding event occurred during or within 48 hours of the end of a choke point exercise the Navy will invoke the limited choke point shutdown for up to 4 days.

4. NMFS will conduct its investigation and inform the Navy of its findings as soon as possible, but no later than 4 days from the date the Uncommon Stranding Event was verified.

5. If the results of the investigation indicate that the stranding resulted from causes other than activities covered by this authorization NMFS will inform the Navy that exercises authorized by this IHA may resume.

6. If NMFS determines that the Navy's activities authorized under the IHA may have contributed to the uncommon marine mammal stranding event NMFS will advise the Navy whether the IHA should be modified, suspended, or revoked.

Communication

Effective communication is critical to the successful implementation of this protocol.

- NMFS will provide Navy with a list of NMFS staff, empowered to inform the Navy to implement the appropriate shutdown protocol as described above. These individuals will be reachable 24 hours/day for 22 consecutive days (a pre-identified group will be on call in shifts to make these decisions and a phone tree will be available). Week-end on call will be designated for HQ staff by noon on Friday.
- Navy will provide NMFS a list of people empowered to implement the shut down protocol, at least one of whom will be reachable at any hour during the 22 days of ASW exercises prior to the initiation of the exercise